

**Sleeve sensor with temperature measuring transducer,
calibratable, with multi-range switching and
active output (Automatic Output Switching)**

Patented quality product (patent no. DE 10 2015 015 941 B4)

Calibratable temperature measuring transducer with sleeve sensor **THERMASGARD® HFTM - VA**, with eight switchable measuring ranges (max. $-20\dots+150\text{ }^{\circ}\text{C}$), active output, rugged housing made from **stainless steel V4A**, with cable gland or M12 connector according to DIN EN 61076-2-101.

The measuring transducer converts the measured variables into a standard signal of 0-10 V or 4...20 mA. The unit with **Automatic Output Switching** (AOS variant) detects the required output type and automatically switches to U or I output. Alternatively, a **type version** (2-wire I variant) with 2-wire connection and I output is available.

The temperature transmitter with remote sensor is used to detect temperatures in liquid and gaseous media e.g. if installed in an immersion sleeve or as a duct sensor. The measuring transducer is factory-calibrated. Adjustment / fine adjustment by the user is possible (zero point offset is adjustable). A direct, permanent use in liquids is possible in combination with immersion sleeves **THE** (see chapter Accessories). The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

TECHNICAL DATA

HFTM - I

Power supply:	15...36 V DC, depending on working resistance, residual ripple stabilised $\pm 0.3\text{ V}$
Working resistance:	$R_b\text{ (Ohm)} = (U_b - 14\text{ V}) / 0.02\text{ A}$
Connection type:	2-wire connection
Output:	4...20 mA

HFTM - A (AOS)

Power supply:	24 V AC / DC ($\pm 10\%$)
Load resistance:	$R_L = 25\dots450\text{ Ohm}$ with AOS I variant $R_L > 15\text{ kOhm}$ with AOS U variant
Connection type:	3-wire connection
Output:	automatic 0-10 V / 4...20 mA (via Automatic Output Switching – the unit detects the required output type and automatically switches to U or I output)

GENERAL

Power consumption:	$< 1.0\text{ VA} / 24\text{ V DC}$; $< 2.2\text{ VA} / 24\text{ V AC}$
Measuring ranges:	multi-range switching with 8 measuring ranges , see table (other ranges optional) with manual zero point correction ($\pm 10\text{ K}$)
Sensor:	Pt1000, DIN EN 60751, class B (Perfect Sensor Protection at IP68)
Accuracy, temperature:	typically $\pm 0.2\text{ K}$ at $+25\text{ }^{\circ}\text{C}$
Insulating resistance:	$\geq 100\text{ M}\Omega$, at $+20\text{ }^{\circ}\text{C}$ (500 V DC)
Sensor protection:	sensor sleeve, stainless steel V4A (1.4571), $\varnothing = 6\text{ mm}$, nominal length NL = 50 mm (optional 30...400 mm)
Sensor cable:	Silicone, SiHF, $2 \times 0.25\text{ mm}^2$; cable length (KL) = 1.5m (other lengths and jacket materials, e.g. PTFE or glass fibre with steel mesh, available on request)
Housing:	stainless steel V4A (1.4571), with non-distortion cover bolting, impact resistant, high EMI shielding, corrosion, temperature, weather- and UV-resistant
Housing dimension:	143 x 97 x 61 mm (Tyr2E)
Cable connection:	cable gland, stainless steel V2A (1.4305) (M20 x 1.5; with strain relief, exchangeable, inner diameter 6 - 12 mm) or M12 connector (male, 5-pin, A-code) according to DIN EN 61076-2-101
Electrical connection:	0.14 - 1.5 mm ² , via terminal screws
Ambient temperature:	measuring transducer $-30\dots+70\text{ }^{\circ}\text{C}$
Permissible humidity:	$< 95\%$ RH, non-precipitating air
Protection class:	III (according EN 60 730)
Protection type housing:	IP 65 (according to EN 60 529) Housing tested, TÜV SÜD, Report No. 713160960B (Skadi2)
Protection type sensor:	IP 65 (according to EN 60 529) sleeve humidity-tight (standard) IP 68 (according to EN 60 529) sleeve water-tight (optional) IP 54 (according to EN 60 529) with glass fibre cable (optional)
Standards:	CE conformity according to EMC directive 2014 / 30 / EU
ACCESSORIES	(see table)

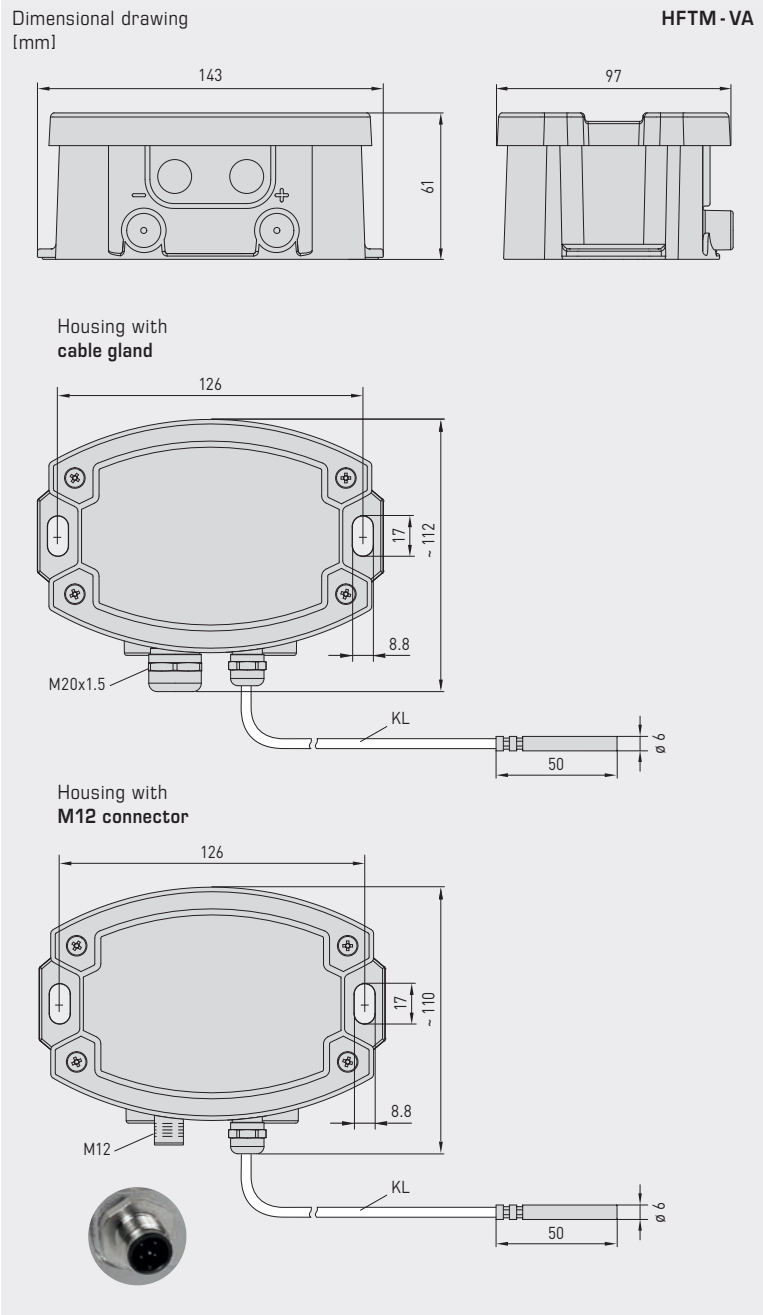


NEW

S+S REGELTECHNIK

Thermasgard® **HFTM - VA**

Sleeve sensor with temperature measuring transducer, calibratable, with multi-range switching and active output (Automatic Output Switching)



HFTM - VA
with cable gland



HFTM - VAQ
with M12 connector



High-performance encapsulation against vibration, mechanical stress and humidity

PS-PROTECTION
PERFECT SENSOR PROTECTION

Automatic detection and switching to standard signal 0...10V or 4...20mA

AOS-PATENTED
AUTOMATIC OUTPUT SWITCHING



IP 65 (standard)
humidity-tight

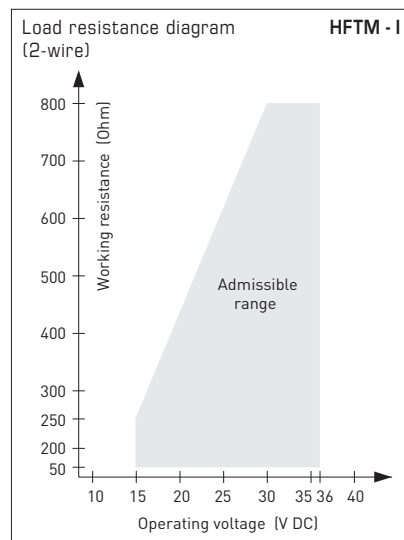
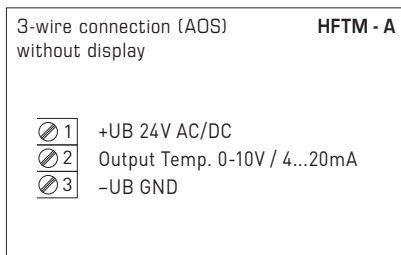
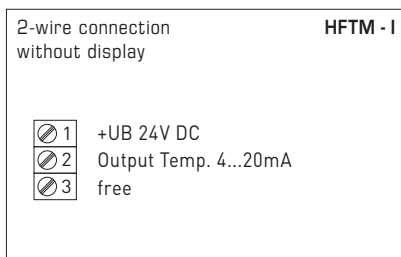
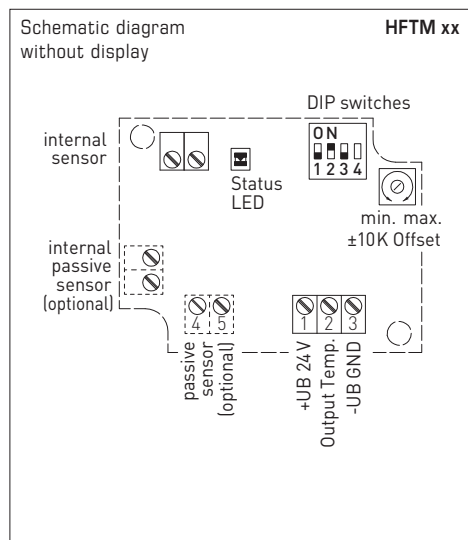


IP 68 (optional)
water-tight
Perfect Sensor Protection



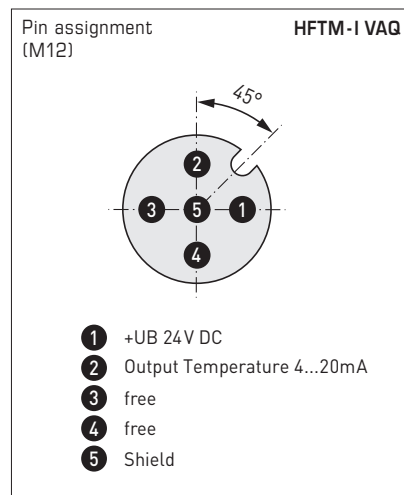
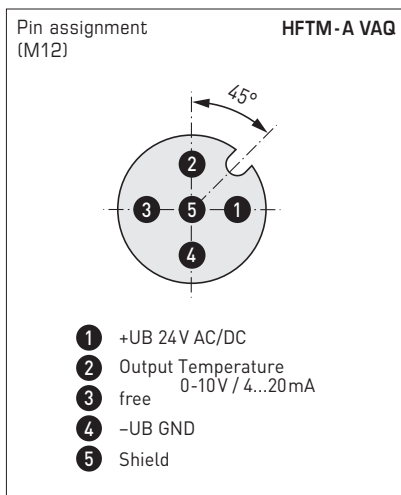
IP 54 (optional)
with glass fibre cable

Sleeve sensor with temperature measuring transducer, calibratable, with multi-range switching and active output (Automatic Output Switching)



Measuring ranges [°C] (adjustable)	DIP 1	DIP 2	DIP 3
-20...+ 150 °C	ON	ON	ON
-50... + 50 °C	OFF	ON	ON
-20... + 80 °C	ON	OFF	ON
-30... + 60 °C	OFF	OFF	ON
0... + 40 °C	ON	ON	OFF
0... + 50 °C (default)	OFF	ON	OFF
0... + 100 °C	ON	OFF	OFF
0... + 150 °C	OFF	OFF	OFF

DIP4 has no function!



For further technical information, see the operating instructions

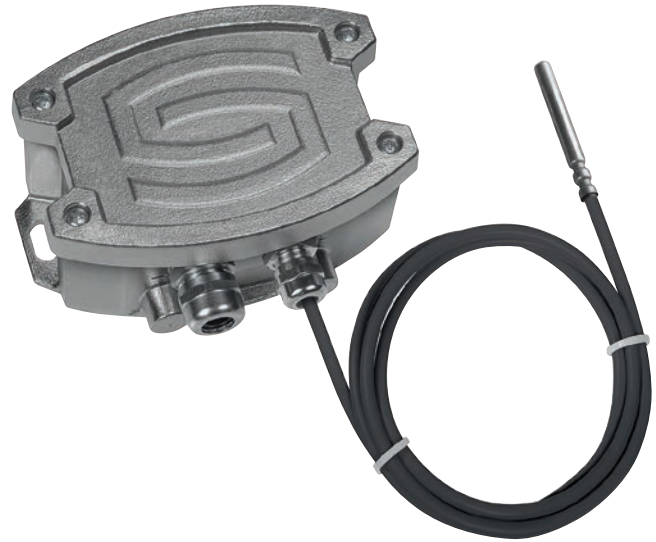


NEW

Sleeve sensor with temperature measuring transducer, calibratable, with multi-range switching and active output (Automatic Output Switching)

HFTM - VAQ
with M12 connector

HFTM - VA
with cable gland



THERMASGARD® HFTM - VA		Sleeve sensor with temperature measuring transducer, ID (Stainless steel housing with cable gland)		
Type / WG02I	Output	Type	Item No.	Price
HFTM - I VA		(2-wire)		
HFTM-I VA	4...20 mA	Remote sensor	2001-2141-2200-001	410,61 €
HFTM - A VA		(3-wire AOS)		
HFTM-A VA	0-10 V / 4...20 mA	Remote sensor	2001-2141-B200-001	410,61 €
Automatic Output Switching (AOS):	Patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10 V or 4...20 mA.			
Housing variant:	Cable connection with cable gland			
Extra charge:	other measuring ranges optional Protection type IP68 (Sensor sleeve watertight compound-filled) 2-wire connecting leads, per running meter (silicone / PTFE / glass fibre) Other lengths of protection sleeve optional			27,21 € 3,64 € on request on request

THERMASGARD® HFTM - VAQ		Sleeve sensor with temperature measuring transducer, ID (Stainless steel housing with M12 connector)		
Type / WG01I	Output	Type	● = Q Item No.	Price
HFTM - I VAQ		(2-wire)		
HFTM-I VAQ	4...20 mA	Remote sensor	● 2001-2141-2100-001	451,91 €
HFTM - A VAQ		(3-wire AOS)		
HFTM-A VAQ	0-10 V / 4...20 mA	Remote sensor	● 2001-2141-B100-001	451,91 €
Automatic Output Switching (AOS):	Patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10 V or 4...20 mA.			
Housing variant "Q":	Cable connection with M12 connector (male, 5-pin, A-code)			
Extra charge:	other measuring ranges optional Protection type IP68 (Sensor sleeve watertight compound-filled) 2-wire connecting leads, per running meter (silicone / PTFE / glass fibre) Other lengths of protection sleeve optional			27,21 € 3,64 € on request on request

ACCESSORIES	
THE-xx	Immersion sleeve, stainless steel V4A (1.4571) or nickel-plated brass, Ø = 9 mm
	Special accessories for M12 connector see chapter Accessories!

